

CLAIMS

1. A conveyor system for transporting a printing plate in a platemaking system, the conveyor system comprising:
 - a carriage riding on a track, said carriage comprising one or more engagement mechanisms for engaging a bottom, non-emulsion side of the printing plate, said track comprising an air cylinder; and
 - one or more low friction substantially horizontal planar support surfaces comprising a high wear laminate, positioned above the carriage and the track, for supporting the printing plate on the non-emulsion side without the use of rollers, belts, bearings or air cushioning.
2. The conveyor system of claim 1 wherein said air cylinder is rodless.
3. The conveyor system of claim 1 wherein the engagement mechanism comprises suction cups to engage the bottom, non-emulsion-side of said printing plate when a vacuum is provided by a vacuum generator through controllable valves to said suction cups.
4. The conveyor system of claim 3 further comprising a controller to control said vacuum generator, said carriage and said air cylinder to move said printing plate along said one or more support surfaces.
5. The conveyor system of claim 1 wherein said high wear laminate comprises surface papers impregnated with melamine resin.
6. The conveyor system of claim 5 wherein said surface papers are pressed over core sheets impregnated with phenolic resin.
7. The conveyor system of claim 6 wherein said surface papers and core sheets are bonded at pressures greater than about 1000 pounds per square inch.

8. The conveyor system of claim 7 wherein said surface papers and core sheets are bonded at temperatures approaching 300 degrees Fahrenheit.
9. The conveyor system of claim 1 wherein said support surfaces are Wilsonart® High Wear Laminate or Formica®.
10. The conveyor system of claim 4 further comprising one or more detectors to provide signals pertaining to positioning of said printing plate on said one or more support surfaces, wherein said controller is programmed to start and stop movement of the air cylinder in response to said signals.
11. A method for transporting a printing plate in a platemaking system, the method comprising the steps of:
 - using an engagement mechanism to attach a bottom, non-emulsion side of the printing plate to a movable carriage positioned beneath the printing plate;
 - moving the carriage with an air cylinder to drag, without the use of rollers, belts, bearings or an air cushion, the printing plate along the bottom, non-emulsion side along a low friction substantially horizontal planar high wear laminate support surface; and
 - controlling the engagement mechanism, carriage and air cylinder with a programmable controller.
12. The method of claim 11 wherein said air cylinder is rodless.
13. The method of claim 11, the controlling step further comprising starting and stopping the air cylinder at predetermined intervals along a length of the air cylinder.
14. The method of claim 11 wherein said support surface is either Wilsonart® High Wear Laminate or Formica®.

15. The method of claim 11 wherein said support surface comprises surface papers impregnated with melamine resin, said surface papers are pressed over core sheets impregnated with phenolic resin, said surface papers are bonded at pressures greater than about 1000 pounds per square inch, and said surface papers and core sheets are bonded at temperatures approaching 300 degrees Fahrenheit.

16. A conveyor system for transporting a printing plate in a platemaking system, the conveyor system comprising:

a carriage riding on a track, said carriage comprising one or more engagement mechanisms for engaging a bottom, non-emulsion side of the printing plate, said track comprising a linear actuating system; and

one or more low friction substantially horizontal planar support surfaces comprising a high wear laminate, positioned above the carriage and the track, for supporting the printing plate on the non-emulsion side without the use of rollers, belts, bearings or air cushioning.

17. The conveyor system of claim 16 wherein the linear actuating system comprises a chain and gears.

18. The conveyor system of claim 16 wherein the linear actuating system comprises a threaded lead screw.

19. The conveyor system of claim 16 wherein the linear actuating system comprises a belt and pulleys.